



# *ASSISTIVE TECHNOLOGY IN EMPLOYMENT FOR PEOPLE WITH DISABILITIES*

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## *Impact of Disability*

- People with disabilities are more likely to be unemployed
- Much higher unemployment rate for minorities and people with several disabilities
- People with disabilities of working age are three times as likely to be poor as general population





## *Additional Impact of Disability*

- Reduced autonomy
- Reduced energy level
- Need for constant advocacy (or pick your battles)
- Personal safety issues





## ***WATA: What we do and who we are***

- Funded by the Assistive Technology Act of 1998
- Information and Referral
- Publications
- Legal Advocacy
- Policy Development and Legislation
- Electronic Information and Networking
- Training and Consultation





## *Assistive Technology Device:*

- Any item, piece of equipment, or product system that is used to maintain or improve functional capabilities. May be purchased off-the-shelf, modified, or customized.





## *Assistive Technology Service:*

- Any service that directly assists in the selection, acquisition, or use of an AT device, including:
  - evaluation or assessment
  - purchasing, leasing, or their acquisition
  - selecting, designing, customizing, repairing
  - training or technical assistance





## *Categories of Assistive Technology*

- Aids for Daily Living
  - Augmentative or Alternative Communication
  - Computer Access
  - Environmental Control Systems
  - Home & Worksite Modifications
  - Prosthetics and Orthotics
  - Seating and Positioning
  - Aids for Visually Impaired
  - Aids for Hearing Impaired
  - Wheelchairs & Mobility Aids
  - Vehicle Modifications
- 



## *50% of AT is abandoned. Why?*


- Changes in consumer functional abilities or activities
- Failure to consider user options and preferences in device selection
- Lack of training on how to use the device
- Lack of access to and information about repair and maintenance







## *Considerations for Matching Person and Technology*

- Identify needs and tasks that need to be addressed
  - Consider a wide range of options (no-tech, light-tech, high-tech)
  - Match person and technology
  - Try out the technology solutions considered if possible
  - Train person to use the technology selected
  - Include the necessary support systems
  - Evaluate outcomes
- 



## *Aids for Daily Living:*

- self-help aids for use in activities such as eating, bathing, cooking, dressing, toileting, home maintenance, etc.



## *Aids for Daily Living*

- Weighted and Built-up Utensils



# *Aids for Daily Living*

- Reachers and Grabbers





## *Augmentative or Alternative Communication:*

- electronic and non-electronic devices that provide means for expressive and receptive communication for people with limited or no speech



# *Augmentative or Alternative Communication:*

- Dynavox- Non-spelling based strategies



# Augmentative or Alternative Communication:

- Pathfinder - Spell-based strategies





## *Computer Access:*

- input and output devices (voice, Braille), alternate access aids (headsticks, light pointers), modified or alternate keyboards, switches, special software, etc. that enable people with disabilities to use a computer





## *Computer Access:*

- TASH Membrane Keyboard



## *Computer Access:*

- Head Mouse



## *Computer Access:*

- Adapted Computer Station
  - Desktop Mobile Arm Supports
  - Keyguards
  - Flat Panel Monitor Arms
  - Adjustable Device Arms
  - Adjustable Keyboard Tray





## *Environmental Control Systems:*

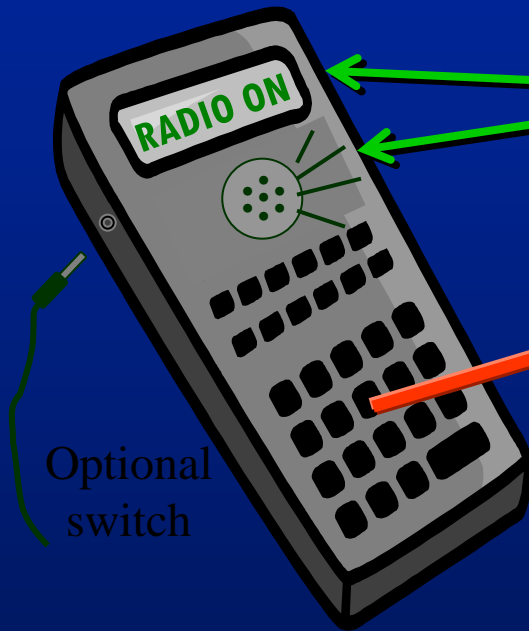
- primarily electronic systems that enable someone with limited mobility to control various appliances (TV, radio), to operate security systems, to turn lights on and off, to turn heat off and on, etc. in their surroundings



# *Environmental Control Systems: Components*

User Display

TV



Optional  
switch

SELECTION

OUTPUT

Lamp

Radio

Blinds

OUTPUT DEVICES

Attendant call

**CONTROL  
INTERFACE**

**ECU  
PROCESSOR**



## *Home & Worksite Modifications:*

- structural adaptations, fabrications in the home, worksite or other areas (ramps, lifts, bathroom changes) that remove or reduce physical barriers for an individual with a disability



# *Home & Worksite Modifications:*

- Bathroom modifications
  - Adjustable height showerhead
  - Shower seat



# *Home & Worksite Modifications:*

- Kitchen modifications







## *Aids for Visually Impaired:*

- aids for specific populations including magnifiers, Braille or speech output devices, large-print screens, closed-circuit television for magnifying documents, etc.



## *Aids for Visually Impaired:*

- CC-TV





## *Aids for Hearing Impaired:*

- aids for specific populations including assistive listening devices (infrared, FM loop systems), hearing aids, TTYs, visual and tactile alerting systems, etc.



## *Aids for Hearing Impaired:*

- Pocket Talker Pro



## *Aids for Hearing Impaired:*

- TTY with Printout





## *Prosthetics and Orthotics:*

- replacement, substitution or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids (splints, braces, etc.); prosthetics to assist with cognitive limitations or deficits, including audio tapes or pagers that function as prompts or reminders





## *Seating and Positioning:*

- accommodations to a wheelchair or other seating system to provide greater body stability, trunk-head support and an upright posture, and reduction of pressure on skin surface (cushions, contour seats, lumbar)



## *Wheelchairs & Mobility Aids:*

- manual and electric wheelchairs, mobile bases for custom chairs, walkers, three-wheel scooters and other utility vehicles for increasing mobility





## *Wheelchairs & Mobility Aids:*

- Electric Wheelchair



## *Wheelchairs & Mobility Aids:*

- Scooter





## *Vehicle Modifications:*

- adaptive driving aids, hand controls, wheelchair and other lifts, modified vans, or other motor vehicles used for transportation



## *Vehicle Modifications:*

- Wheelchair lifts and ramps



## *AT Funding is limited*

- Very limited AT funding, or none, available for those who cannot get AT funded through public education, vocational rehabilitation, public or private insurance



# *Using PASS*

- Plan should consider both devices and services.
- Lease equipment whenever possible.

